



# *United Kingdom of Great Britain and Northern Ireland*

---

## EDICT OF GOVERNMENT

In order to promote public education and public safety, equal justice for all, a better informed citizenry, the rule of law, world trade and world peace, this legal document is hereby made available on a noncommercial basis, as it is the right of all humans to know and speak the laws that govern them.

BS NA EN 1991-3 (2006) (English): UK National  
Annex to Eurocode 1. Actions on structures.  
Actions induced by cranes and machinery

---

*Nulli vendemus, nulli negabimus aut differemus Rectum aut Justiciam.*  
*We will sell to no man, we will not deny or defer to any man either Justice or Right.*  
MAGNA CARTA (1297)

BLANK PAGE



NA to BS EN 1991-3:2006



BSI Standards Publication

# **UK National Annex to Eurocode 1: Actions on structures –**

Part 3: Actions induced by cranes  
and machinery

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

*raising standards worldwide™*



**Publishing and copyright information**

The BSI copyright notice displayed in this document indicates when the document was last issued.

© BSI 2009

ISBN 978 0 580 67719 9

ICS 91.010.30

The following BSI references relate to the work on this standard:

Committee reference B/525/1

Draft for comment 09/30128344 DC

**Publication history**

First published August 2009

**Amendments issued since publication**

Date	Text affected
------	---------------

**Summary of pages**

This document comprises a front cover, an inside front cover, pages 1 to 4, an inside back cover and a back cover.

# National Annex (informative) to BS EN 1991-3:2006, Eurocode 1: Actions on structures – Part 3: Actions induced by cranes and machinery

## Introduction

This National Annex has been prepared by BSI Subcommittee B/525/1, *Actions (loadings) and basis of design*. In the UK it is to be used in conjunction with BS EN 1991-3:2006.

## NA.1 Scope

This National Annex gives:

- a) the UK decisions for the Nationally Determined Parameters described in the following subclauses of BS EN 1991-3:2006:
  - 2.1(2)
  - 2.5.2.1(2)
  - 2.5.3(2)
  - 2.7.3(3)
  - A.2.2(1)
  - A.2.2(2)
  - A.2.3(1)
- b) the UK decision on the status of informative Annex B.

## NA.2 Nationally Determined Parameters

### NA.2.1 General

UK decisions for the Nationally Determined Parameters described in BS EN 1991-3:2006 are given in NA.2.2 to NA.2.8.

### NA.2.2 Procedure when actions are given by the crane supplier [BS EN 1991-3:2006, 2.1(2)]

No additional information is given.

### NA.2.3 Eccentricity of wheel loads [BS EN 1991-3:2006, 2.5.2.1(2)]

The recommended value should be used.

**NA.2.4 Maximum number of cranes to be considered in the most unfavourable position**  
**[BS EN 1991-3:2006, 2.5.3(2)]**

The maximum number of cranes considered in the most unfavourable position should generally be as recommended in BS EN 1991-3:2006, Table 2.3. However, where two or more cranes are intended to work in cooperation, they should be counted as one in applying this table.

**NA.2.5 Value of friction factor**  
**[BS EN 1991-3:2006, 2.7.3(3)]**

The recommended values should be used.

**NA.2.6 Definition of  $\gamma$ -values for cases STR and GEO**  
**[BS EN 1991-3:2006, A.2.2(1)]**

The  $\gamma$ -values for cases STR and GEO recommended in BS EN 1991-3:2006, Table A.1, should be used.

**NA.2.7 Definition of  $\gamma$ -values for case EQU**  
**[BS EN 1991-3:2006, A.2.2(2)]**

The  $\gamma$ -values for case EQU recommended in the Note to BS EN 1991-3:2006, A.2.2(2), should not be used. Instead the NA to BS EN 1990:2002+A1, NA.2.2.3.1 and Table NA.A1.2 (A), should be adopted, including the alternative combined verification given in the footnote of this table.

**NA.2.8 Definition of  $\psi$ -values**  
**[BS EN 1991-3:2006, A.2.3(1), Table A.2]**

The  $\psi$ -values for crane loads should be as recommended.

**NA.3 Decision on the status of informative Annex B**

BS EN 1991-3:2006, Annex B, may be used.

## Bibliography

### Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NA to BS EN 1990:2002+A1:2005, *UK National Annex for Eurocode – Basis of structural design*







# British Standards Institution (BSI)

BSI is the independent national body responsible for preparing British Standards and other standards-related publications, information and services. It presents the UK view on standards in Europe and at the international level.

BSI is incorporated by Royal Charter. British Standards and other standardisation products are published by BSI Standards Limited.

## Revisions

British Standards and PASs are periodically updated by amendment or revision. Users of British Standards and PASs should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using British Standards would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Similar for PASs, please notify BSI Customer Services.

**Tel: +44 (0)20 8996 9001 Fax: +44 (0)20 8996 7001**

BSI offers BSI Subscribing Members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of British Standards and PASs.

**Tel: +44 (0)20 8996 7669 Fax: +44 (0)20 8996 7001**  
**Email: [plus@bsigroup.com](mailto:plus@bsigroup.com)**

## Buying standards

You may buy PDF and hard copy versions of standards directly using a credit card from the BSI Shop on the website [www.bsigroup.com/shop](http://www.bsigroup.com/shop). In addition all orders for BSI, international and foreign standards publications can be addressed to BSI Customer Services.

**Tel: +44 (0)20 8996 9001 Fax: +44 (0)20 8996 7001**  
**Email: [orders@bsigroup.com](mailto:orders@bsigroup.com)**

In response to orders for international standards, BSI will supply the British Standard implementation of the relevant international standard, unless otherwise requested.

## Information on standards

BSI provides a wide range of information on national, European and international standards through its Knowledge Centre.

**Tel: +44 (0)20 8996 7004 Fax: +44 (0)20 8996 7005**  
**Email: [knowledgecentre@bsigroup.com](mailto:knowledgecentre@bsigroup.com)**

BSI Subscribing Members are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration.

**Tel: +44 (0)20 8996 7002 Fax: +44 (0)20 8996 7001**  
**Email: [membership@bsigroup.com](mailto:membership@bsigroup.com)**

Information regarding online access to British Standards and PASs via British Standards Online can be found at [www.bsigroup.com/BSOL](http://www.bsigroup.com/BSOL)

Further information about British Standards is available on the BSI website at [www.bsi-group.com/standards](http://www.bsi-group.com/standards)

## Copyright

All the data, software and documentation set out in all British Standards and other BSI publications are the property of and copyrighted by BSI, or some person or entity that own copyright in the information used (such as the international standardisation bodies) has formally licensed such information to BSI for commercial publication and use. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI. This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained. Details and advice can be obtained from the Copyright & Licensing Department.

**Tel: +44 (0)20 8996 7070**  
**Email:**

**[copyright@bsigroup.com](mailto:copyright@bsigroup.com)**

## BSI

389 Chiswick High Road London W4 4AL UK

**Tel +44 (0)20 8996 9001**  
**Fax +44 (0)20 8996 7001**  
[www.bsigroup.com/standards](http://www.bsigroup.com/standards)